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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,624	03/09/2001	Yoshikazu Kojima	81738.0292	7882

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EXAMINER

FENTY, JESSE A

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 08/13/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/803,624

Applicant(s)

Kojima et al.

Examiner

J. Feuty

Group Art Unit

2815

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☒ Responsive to communication(s) filed on May 28, 2008
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 27, 28 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 27, 28 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some\* ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

Office Action Summary

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 28 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haken (U.S. Patent No. 5,024,960) in view of Malhi (U.S. Patent No. 5,777,363).

In re claim 28, Haken discloses a semiconductor device, comprising:

an HVMISFET having:

a source region (13) and drain region (15) of a second conductivity type formed apart from each other on a surface of a semiconductor region of a first conductivity type,

a channel forming region which is the surface of the semiconductor region between the source region and the drain region,

a gate (9) formed on the channel-forming region via a gate insulating film of a thickness in the range of 100-200 angstroms,

the drain region being constituted of a low concentration drain region and a high-concentration drain region in contact with each other,

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the low-concentration drain region being disposed between the channel-forming region and the high concentration drain region, and

a field oxide film above the low-concentration drain region; and

an LVMISFET of the same conductivity type formed on the same semiconductor region and having the same threshold voltage and gate insulating film as the HVMISFET, and

drain regions and source region of the HVMISFET and the LVMISFET being constituted as phosphorous impurity regions.

The limitation, “being partially increased ... 0.7V” is a recitations of the intended use of the claimed device and does not further limit the claimed structure from that known to the prior art.

The limitation, “formed by self-alignment” recites the process used to make this particular product and does not distinguish over the structure of the prior art.

Haken discloses a thick field oxide region but does not expressly disclose the field oxide region having a thickness of at least one order of ten greater than the gate insulating film. Malhi discloses a field oxide region (16) of a thickness, 1 micron, that is at least one order of ten greater than the gate insulating film (18; 200 angstroms). It would have been obvious for one skilled in the art at the time of the invention to construct the thickness of the field oxide region of Haken of that provided by Malhi, for the purpose, for example, of providing better device isolation and also such thicknesses are well-known in the art and do not provide any unexpected results.

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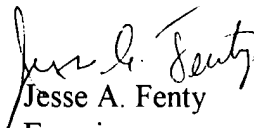
In re claim 27, Haken in view of Malhi discloses the device of claim 28, wherein the minimum gate length in the channel length direction of the LVMISFET is in the rang of 1.5 to 2.5 microns (Haken; column 1, line 27-32; column 2, lines 31-34). Routine experimentation from what is known in the art would produce channel lengths in the range claimed.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 703-308-8137. The examiner can normally be reached M-F, 8:30 - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-746-3892 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed tot he receptionist whose telephone number is 703-308-0956.

  
Jesse A. Fenty  
Examiner  
Art Unit 2815

JAF

August 10, 2002